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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,735	05/10/2002	Franciscus Roffelsen		6176

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EXAMINER

FLANIGAN, ALLEN J

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/031,735	Applicant(s) ROFFELSEN, FRANCISCUS	
	Examiner Allen J. Flanigan	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 17-32 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 17, 19, 20, 23, 26, 29, 31 and 32 is/are rejected.  
 7) ☒ Claim(s) 18, 21, 22, 24, 25, 27, 28, and 30 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 26 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Libin.

Please see the comments made in regard to the above rejection in the previous Office action. Regarding the "under a bias pressure" recitation, note lines 39-41 of column 4 of Libin.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Libin in view of Ogata et al.

Please see the comments made in regard to the above rejection in the previous Office action.

Claims 17, 19, 20, 23, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Libin in view of Plummer and Reed.

Please see the comments made in regard to the above rejection in the previous Office action.

Applicant's arguments filed 3/30/2004 have been fully considered but they are not persuasive.

The main thrust of applicant's comments in regard to Libin are that

1. Libin is intended for exchanging gas, not liquid.
2. An implication that the clearance of the leakage channel of Libin is too small for liquid to pass.

The first point is unpersuasive for at least two reasons: The intended use of the claimed device cannot distinguish an otherwise known structure. Even assuming *arguendo* Libin was meant for gas only use, recitations regarding the use of liquid heat exchange fluids will not patentably distinguish. Second, applicant grossly mischaracterizes Libin's teaching by implying that it is limited to gas heat exchange, is unsuitable for or teaches away from liquid heat exchange. Libin, for example, expressly states in lines 56-58 of column 5 that "The double wall tubes according to the invention may be used in any type heat exchanger employing two fluids." Fluid is a term of art universally understood to encompass both liquid and gas: "A continuous, amorphous substance whose molecules move freely past one another and that has the tendency to assume the shape of its container; *a liquid or gas*<sup>1</sup>"(italics added).

The second point is equally unpersuasive. Liquid molecules are much smaller than the 30 micron size range of the asperities in the Fig. 3 embodiment, and Libin expressly teaches that the brazing alloy layer thinner than the "mean roughness" of the inner tube (lines 14-23 of column 5). Since liquid molecules (water, for example) have a diameter on the order of 1-10 Angstroms, even a gap of a tenth of a micron would be sufficiently large to accommodate thousands of liquid molecules.

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<sup>1</sup>The American Heritage® Dictionary of the English Language, Third Edition copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation; further reproduction and distribution restricted in accordance with the Copyright Law of the United States. All rights reserved.

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Claims 18, 21, 22, 24, 25, 27, 28, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen J. Flanigan whose telephone number is (703) 308-1015. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Scherbel can be reached on (703) 308-1272. The

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fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "Allen J. Flanigan". The signature is written in a cursive, flowing style.

Allen J. Flanigan  
Primary Examiner  
Art Unit 3753

AJF